

NOTES ON SOUTH AUSTRALIAN MARINE MOLLUSCA,
WITH DESCRIPTIONS OF NEW SPECIES.—PART X.

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[Read June 1, 1909.]

PLATES XX. AND XXI.

Cyclostrema (Daronia) jaffaensis, n. sp.

Pl. xx., figs. 6 and 7.

Shell small, concentrically coiled. Whorls two, convex, uniformly increasing. Suture distinct, impressed. Aperture reniform; only a thin glaze over the preceding whorl; borders simple, thin, at the sides concavely retrocurrent near the suture, then convexly antecurrent, and in front barely concave. Umbilicus very wide and perspective, showing all the whorls; the sunken spire is similar, but not quite so deep or steep. Both depressions are bounded by a minute angulation or carinating cord, which winds round the whorl, gradually approaching the suture until it is lost in the depression at the beginning of the penultimate whorl.

Dim.—Largest diameter, 2 mm.; smallest, 1.6 mm.; width of aperture, 1 mm.

Locality.—90 fathoms off Cape Jaffa, 2 good, dead.

Obs.—The genus is provisional. *Daronia* (A. Adams), a planorbiform section, corresponds, but for the continuity of its peristome.

Xenophora tatei, Harris.

Xenophora (Tugurium) tatei, Harris, Brit. Mus. Cat. Tert. Moll., Austr., vol. i., 1897, p. 254, pl. vii., figs. 7a and 7b.

Hedley, Memoirs Austr. Mus., "Thetis Results," 1903, p. 357. "A broken shell, 30 mm. in diameter, and apparently half-grown; corresponds with actual fossil shells from Muddy Creek, with which I have compared it."

Four were dredged dead in 15 to 20 fathoms in Petrel Bay, St. Francis Island; 17.5 mm. in diameter, exclusive of accretions. They were submitted to Mr. Hedley, who wrote:—"For the purpose of this note I have again scrutinized both a Muddy Creek fossil and the New South Wales series of recent shells, and I see no difference." By courtesy of Mr. Howchin I have compared it with the fossils in the Tate Museum of the University of Adelaide. These are much larger when full-grown, and show a comparatively larger umbilicus and much more valid and very regular radial liræ

on the base. But fossils of the same size as the recent shell have quite similar weak, crinkled striations.

Turbonilla brevis, Pritchard and Gatliff.

Turbonilla brevis, Pritchard and Gatliff, Proc. Roy. Soc., Vict., 1900, vol. xiii. (New Series), pt. 1, p. 135, pl. xxi., fig. 4. *Type locality*—"Off Rhyll . . . about four fathoms."

Taken in Gulf St. Vincent, depth not recorded, many examples alive and dead.

Donovania fenestrata, Tate and May.

Pl. xxi., figs. 8 and 9.

Donovania fenestrata, Tate and May, Trans. Roy. Soc., S. Austr., vol. xxiv., 1900, p. 94. *Type locality*—East coast of Tasmania (W. L. May); Tate and May, Proc. Linn. Soc., New South Wales, 1901, vol. xxvi., p. 372, pl. xxiv., fig. 36.

Dredged in 110 fathoms off Beachport, 10 examples; in 150 fathoms 1, and in 40 fathoms 1; in 130 fathoms off Cape Jaffa 2, all dead (Dr. Verco); MacDonnell Bay beach, 1 (Dr. Torr).

Obs.—The above specimens were identified by me from examples sent by Mr. May, and later by him from his type. I had already had the figures drawn as for a new species of Trophon. The spiral liræ may be three, four, or five in different shells. The colour may be wholly translucent glistening white; or wholly light-brown, with a white protoconch; or cream-coloured, faintly tinted brown over the base. The dimensions may be—Length, 12 mm.; width, 2.9 mm. Length of body-whorl, 3.7 mm., just half as large again as the type.

Cominella torri, n. sp. Pl. xxi., figs. 10 and 11.

Shell large, solid, elongate-oval, of six whorls. Protoconch absent. Sutures distinct, broadly, flatly margined. Whorls convex, roundly shouldered above the middle. Body-whorl longer than the spire, base contracted. Aperture obliquely axially narrowly elliptical, with a moderate oblique sinistral open canal, somewhat recurved and notched; a narrow gutter at the suture, which slightly ascends. Outer lip simple, thin, rather effuse from its centre to the notch. Inner lip well marked, callous, smooth, and polished, complete from above the posterior gutter nearly to the notch, somewhat spreading, thickest about the columella; this is straight, obtusely roundly angled at its junction with the canal.

Sculpture: broad, round axial ribs, wider than the spaces, most prominent at the shoulder, not affecting the

sutural margin, nearly vanishing at the periphery of the body-whorl. Four spiral equidistant narrow cords on the spire whorls; seventeen on the body-whorl; the front six below the periphery being the largest. Interstices with four to seven slightly crinkled threadlets.

Inside the aperture, at the anterior end of the columella, just above the canal, are two spiral threads, very distinct in broken shells.

The colour in the spire, from the shoulder to the lower suture, is a beautiful pinkish-salmon tint, fading towards the summits of the costæ. On the body-whorl this colouration ceases abruptly at the periphery, with a spiral line of small deep-brown articulated spots, which similarly ornament all the cords on the base. Short, wavy axial reddish-brown lines and flames crowd along the margined suture; and axial zig-zag dark-brown lines, rather more numerous than the costæ, cross the broad band on the body-whorl.

Dim.—Length, 41 mm.; breadth, 19 mm.; length of body-whorl, 29 mm. Another specimen, if whole, would be 60 mm. long and 28 mm. broad.

Locality.—St. Francis Island, 16 dead shells and fragments. No living or perfect example was obtained. It must be a large and beautiful shell. The two columellar plaits suggest *Peristernia*, but I have placed it provisionally in *Cominella*.

***Typhis bivaricata*, n. sp.** Pl. xxi., figs. 1 and 2.

Shell imperforate, elongate-oval, rather thin; white, tinged with brown below the suture and the periphery. Whorls six, including a protoconch of nearly two smooth inflated turns. Spire-whorls, each bears four projecting tubes with a rounded aperture; between these are double varices, the more prominent leaf midway between the tubes, the other just behind a tube; each leaf is flexuous and tridentate, and ends behind in a hollow-pointed recurved spine. Body-whorl nearly as long as the spire, narrowed at the base, from which project the ends of three canals, towards each of which the two leaves of a varix converge to unite. Aperture roundly-oval, small, entire, peristome projecting, detached, simple, and sharp. Canal completely closed from the aperture to its end, wide, slightly oblique to the left, recurved. Tube long, round, curved.

Dim.—Length, 5·5 mm.; spire, 2·8 mm.; body-whorl, 2·7 mm.; tube, 2·1 mm.; breadth, 2·6 mm.

Locality.—20 examples dead in 104 fathoms, 35 miles south-west of Neptune Islands.

Diagnosis.—It differs from *T. yatesi*, Crosse, in being smaller, and in its double varices, which contain fewer and differently-shaped denticulations.

Trophon rudolphi, Brazier.

Peristernia rudolphi, Brazier, Proc. Linn. Soc., New South Wales, vol. ix., series 2, 1894, p. 166, pl. xiv., fig. 1. *Type locality*—Port Jackson.

Trophon rudolphi, Brazier, Hedley, and May, Records of Austr. Mus., vol. vii., No. 2, 1908, p. 112, from 100 fathoms. Cape Pillar, Tasmania.

Dredged in 40 fathoms off Beachport, five good specimens.

Trophon simplex, Hedley.

Trophon simplex, Hedley, Memoirs Australian Mus., vol. iv., pt. 6, 1903, p. 380, fig. 93. *Type locality*—Off Port Kembla, New South Wales, in 63 to 75 fathoms.

Dredged in 104 fathoms 35 miles south-west of Neptune Islands, thirteen examples; in 90 fathoms off Cape Jaffa, 20 examples. Identified by Mr. Hedley from his type.

Trophon longior, n. sp. Pl. xxi., figs. 5 and 6.

Shell solid, narrowly fusiform, of seven whorls. Protoconch of two and a half whorls, smoothly granular, ending by a distinct scar; first whorl with two carinæ, of which the highest continues as a sharp-corded angulation through the embryonic whorls, the lower fades out on the first whorl. Sutures distinct, barely margined. Whorls convex. Aperture obliquely oval; canal nearly as long as the aperture, directed obliquely to the left, concave to the right, slightly recurved. Outer lip thin, simple. Inner lip thin, erect anteriorly. Columella concave, obtusely roundly angled at its junction with the canal. Sculpture bold; axial costæ eleven in the penultimate, rather wider than the interspaces, round, extending from the suture which they undulate to the canal, whose varix they scale; spirals, four in the penultimate, three in the earlier whorls, nine in the body-whorl, round, crossing the axials. Colour white, just tinted with brown; deeply scorched spirally on the axial costæ near the suture, and in the body-whorl just below the periphery.

Dim.—Length, 6·4 mm.; width, 2·7 mm.; aperture, 1·5 mm.

Locality.—Type in 40 fathoms off Beachport, with one other example, good, but dead.

Diagnosis.—It resembles *Trophon rudolphi*, Brazier (taken by me and kindly identified by Mr. C. Hedley), in its striking protoconch, but is longer and narrower, and

has its axials and spirals not so broad and close-set. It may be only a variant, in which case its specific name will indicate its difference from the typical form.

Trophon latior, n. sp. Pl. xxi., figs. 3 and 4.

Shell solid, ovately fusiform, of seven whorls. Protoconch of two and a half whorls, smooth, convex, ending abruptly, apex exsert. Whorls convex, the first round, the others sharply angulate above the centre. Body-whorl roundly angled at the periphery, very contracted at the base. Aperture obliquely axially oval. Canal moderate, oblique to the left, slightly concave to the right, recurved, open. Outer lip thin, simple; inner lip only a glaze. Columella nearly straight, scarcely angled at junction with the canal. Sculpture bold: axial costæ, ten in the penultimate, high, compressed, rounded, narrower than the interspaces, extending from the suture to the varix of the canal. Spirals three, the largest on the shoulder, the smallest between it and the upper suture, crossing the costæ; nine in the body-whorl. Colour horn-tinted, with a white spiral line at the angle, and a broad, brown band below the periphery, dotting the spire whorls in the spaces above the suture and fading out anteriorly. The most anterior spiral on the varix of the canal articulated brown, the one above it wholly white.

Dim.—Length, 7.2 mm.; of body-whorl, 4.7 mm.; width, 3.9 mm.

Locality.—Type in 40 fathoms off Beachport, with two other fresh specimens, all dead.

Obs.—One example is not quite so wide as the type. Its affinity is with *T. columnarius*, Hedley and May, but is shorter and wider (whence its name) and has not its axial foliations.

Voluta fulgetrum, Sowerby, *var. dictua*, var. nov.

Pl. xxi., fig. 7.

Voluta fulgetrum, Sowerby, Catalogue of Shells in the Collection of the Earl of Tankerville, 1825; Appendix, p. 28. No. 2149, pls. iv. and v.

This variety is of the same shape and size as individuals with typical colouration. It is covered with a fine network of a light yellowish-brown tint, formed by close-set axial lines of small transverse arrowhead and reticulate markings, not unlike those of *Voluta exoptanda*, Sowerby. At the suture in the body-whorl these lines end as small blotches of deeper colour, producing a flamed articulation; and in

the spire-whorls, just above the suture, are distant, transverse, oblong spots, about six in a whorl.

Taken in lobster-pots off Granite Island, Port Victor, three examples.

Philine columnaria, Hedley and May.

Philine columnaria, Hedley and May, Records Austr. Mus., vol. vii., No. 2, 1908, p. 123. pl. xxiv., figs. 25, 26. *Type locality*—100 fathoms, off Cape Pillar, Tasmania.

Dredged dead, in poor condition off Beachport in 40 fathoms, 1; in 100 fathoms, 2; in 110 fathoms, 5; in 200 fathoms, 6; off Cape Jaffa in 130 fathoms, 3. It was identified by Mr. Hedley from type.

Some specimens show two spiral bands, one about the middle of the shell, the other about halfway between this and the apex, less opaque than the rest of the shell, and are sometimes constricted along these lines and swollen between. Mr. Hedley says the Cape Pillar individuals showed the same variation.

Philine beachportensis, n. sp. Pl. xx., figs. 1, 2, and 3.

Shell milk-white, ovate. Apex sunken. Vertex with a triangular callus projecting from the inner lip; from the apex of the callus a lamina borders the back of the aperture, and a second runs round the middle of the apical pit to the outer lip, the two enclosing a gutter narrowing outwardly.

Aperture wide in front, narrow behind, with a narrow posterior sinus. Outer lip simple, thin, straightly-convex in profile; basal lip uniformly curved; columella concave: inner lip with a defined, well-spread glaze, ending behind in the callus.

Sculpture.—Crowded, flat, spiral liræ, separated by incisions, widest in the central half, more crowded towards the base, most crowded in the posterior fourth. Very crowded, fine accremental striæ cross the spirals and distinctly punctate the incisions.

Dim.—Length, 18.2 mm.; breadth, 8.1 mm.

Locality.—Type in 200 fathoms off Beachport, with 8 smaller; 130 fathoms off Cape Jaffa, 16; 300 fathoms, 5, all dead.

Philine evoluta, n. sp. Pl. xx., figs. 8 and 9.

Shell small, thin, milky-white, short, subquadrate. Vertex very little narrowed, not umbilicated, showing three-quarters of a whorl. Surface flatly convex.

Aperture very wide, widely sinused above. Outer lip

thin, produced in a roundly-angular lobe above the vertex. Columella deeply and uniformly concave. Inner lip a moderately wide glaze. A minute rimate umbilicus.

Sculpture.—Numerous, flat, low spiral liræ, about one-third the width of their interspaces: at the vertex obsolete, in the middle more crowded. Subdistant accremental striæ and undulations.

Dim.—Length, 4·3 mm.; breadth, 3·5 mm.

Locality.—In 130 fathoms off Cape Jaffa, 1 dead.

Aglaja troubridgensis, n. sp. Pl. xx., figs. 4 and 5.

Shell about two and a half whorls, detached; depressed conic; apex somewhat lower than the rest; inner margin not uniformly curved, thick, opaque white to an irregular depth varying from 2 to 4 mm.; outer part thin, translucent, with a membranous edge; surface irregularly corrugated by obliquely retrocurrent folds, which roughen the inner margin. Internally somewhat rugose.

Dim.—Greatest diameter, 21 mm.; smallest, 15 mm.; height, 21 mm.

Locality.—Troubridge Island, among the rocks. Animals collected by Miss Fraser. Shells only preserved.

Obs.—Whether an *Aglaja* or a *Navanax*, an examination of the animal will decide. I have adopted Renier's generic name instead of the *Doridium* of Meckel, following Tryon.
